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SOME THEORETICAL POSSIBILITIES OF A PROTECTIVE TARIFF.

BY THOMAS NIXON CARVER.

The wisdom of reopening the tariff question to scientific discussion can be denied only on the ground that economic science has said its last word on the subject. In view of the rapid development of the science during the last twenty years, and the light which recent analyses have thrown on other questions, it would be surprising if some new light had not been thrown upon this question. It would savor somewhat of Bourbonism to assume beforehand that further discussion of a question of this kind is superfluous. Certainly the mere fact that the question happens to be a political one can be no sufficient reason why it should be ignored by a student of economics.

In a paper of this length it will be manifestly impossible to discuss every phase of the question. Therefore it will be narrowed down to the three following questions: 1. Who pays the tariff? 2. Can a protective tariff raise wages? 3. Does a protective tariff necessarily attract labor and capital from the more productive industries into the less productive industries? As a partial answer to each of these questions it will be the purpose of this paper to support the three following propositions:

1. A tariff duty is not necessarily paid by the home consumer.

2. A protective tariff may be so framed as to raise wages.

3. A protective tariff may be so framed as to attract

labor and capital from the less productive into the more productive industries—judged from the standpoint of the community rather than from that of the individual business man.

[1] Whether the home consumer pays the tariff duty or not depends upon whether or not the tariff duty raises the price, in the home market, of the article upon which it is collected. Whether it raises the price or not depends upon whether it reduces the supply of the article in the home market or not;—it being assumed that the duty will not affect the demand. The effect of a duty is ordinarily to reduce the amount of the article imported. The question is then, will the home product then increase, as a result of the duty, sufficiently to counterbalance the diminution in the amount imported? If the conditions are such that a tariff duty will occasion an increase in the domestic product equal to the diminution in the amount imported, the duty will occasion no change in the total supply on the home market, and consequently no change in the price of the article. But if the domestic product does not increase sufficiently to offset entirely the diminution in the amount imported, there will be a decrease in the total supply on the home market and, consequently, a rise in price.

The question then becomes: Under what conditions will a tariff duty occasion an increase in the domestic product sufficient to counterbalance the diminution in the amount imported? If the duty is laid upon an article not producible at home under existing conditions and at existing prices, there can manifestly be no such increase in the domestic product, and the price will rise

[1] This is in part a reproduction of the author's argument on the same subject which forms a part of an article on the shifting of taxes, published in the *Yale Review*, Nov., 1896.

in consequence of the duty. How large a share of the duty will be added to the price of the article will depend upon the comparative elasticity of the demand and the supply. If the demand is highly elastic while the supply is inelastic, only a small proportion of the duty will be added to the price. That is to say, an elastic demand means that if there is a slight rise in the price of the article to the consumer it would cause a great falling off in the amount purchased. In other words the consumer may be said to have considerable power of resistance. On the other hand, if a considerable fall in the price which the producer can get will cause only a slight falling off in the amount produced, as will happen when there are considerable differences in the cost of producing different parts of the supply, the supply is inelastic. When the demand is elastic and the supply relatively inelastic, the burden of a tariff duty will be borne largely by the foreign producer and only to a slight extent by the home consumer. Reversing the argument we will reach the conclusion that when the demand for the article is inelastic and the supply relatively elastic, the burden of the duty will fall largely upon the home consumer. When both the supply and the demand are very elastic a tariff duty will tend to be prohibitive. That is to say, if a slight rise in the price to the consumer would cause a very large falling off in the amount consumed, and a slight fall in the price to the producer would cause a great falling off in the amount sent to the tariff country, manifestly neither the producer nor the consumer can be made to pay the tariff to any great extent, but the article will practically cease to be imported.

If the article is produced at home, but under the law of expanding cost, commonly confused with the law of

diminishing returns, the presumption is that as much is already being produced at any given time as can be at existing prices. The one condition for an increase in the home product is that there shall be a rise in price. It is evident that the domestic product could not increase sufficiently to keep the prices down for the reason that if the prices were kept down there could be no increase in the home production. A duty on such an article would raise the price of the article, and be borne, in part at least, by the home consumer.

In case the duty is laid upon an article which is produced at home under the law of diminishing cost—provided its production has not been monopolized—a different result follows. In a case of this kind, the shutting out of a part of the foreign supply increases the opportunities for the marketing of the home product; and since the home product can be increased without any increase in cost, there is nothing to prevent it from increasing sufficiently to offset entirely any diminution in the amount imported. In this case there is no reason to expect that the price will be higher under the tariff than it would be without the tariff.

The shutting out of a part of the foreign supply may be said to be analagous to a normal growth in the consumption of the article,—at least in so far as it affects the home producers. They find an increase in the consumption of their products, and it makes no difference to them whether this is due to a decrease in importation or to a growth in the normal consumption of the article. Few economists would contend that a normal growth in the consumption of an article which could be indefinitely increased at diminishing cost would cause the article to sell at a higher price. It is the position of this paper that there is no better ground for contending that a tariff

duty on an article already producible at home under the law of diminishing cost would raise the price of the article; or that when there is no natural check, such as increasing cost, to the home production, there is no reason why the home production may not increase sufficiently entirely to make up for any falling off in the amount imported.[1]

If, however, the article is one whose home production is in the hands of a monopoly, the shutting out of a part of the foreign product would increase the monopoly's power over the home market and give it an opportunity to exact a somewhat higher price than would otherwise be possible. There is a very wide-spread belief that a monopoly fixes the price of its product according to a different principle from that which is followed by a single producer in a competitive industry, but such is not the case. In either case the price is fixed at the point which will yield the largest net income to the producer. The difference is that the individual producer in a competitive industry has to face a different set of conditions from that which confronts the monopolists. The competitive producer knows that if he charges too high a price for his products his sales will fall off rapidly, not only through the unwillingness of the public to buy the product, but also through the underselling of his competitors. If he held a monopoly he would know that a similar rise in the price of the product would cause his sales to fall off less rapidly, because only one, namely the former, of those two forces would operate. While both the monopolist and the competitive producer try to sell at the point of highest net return, that point is likely to be somewhat different

[1] In fact there are reasons for believing that the price would fall. Cf. Marshall: Principles of Economics, 4th Ed., p. 525.

in the two cases, because of the differences in the conditions which confront the two producers. The competitive producer has two checks on high prices where the monopolist has one. Hence monopoly price is likely to be higher than competitive price. A tariff duty which shuts out a part of the foreign product, removes one of the checks upon the power of a monopoly to charge high prices, and changes the location of the point of highest net return.

Whether a protective tariff can increase the price of labor or not depends first upon whether or not it is possible, by means of a tariff, to increase the demand for labor relatively to the demand for other factors of production. If this can be done labor will get a larger share of the total product of the industry of the community. This alone would not prove that the individual laborer would in the end be better off. In the first place, the supply of labor might increase correspondingly, either through immigration or natural increase; in which event there would be no increase in individual wages, even though a larger share of the total product did go to the payment of labor. In the second place, the tariff might diminish the total product of industry so that, even though the laborers did get a larger share of the total, the absolute amount going to them as wages might be no greater than, indeed not so great as, before.

As to the first objection, it needs only to be said that if the tariff increases the demand for labor that will tend to raise wages. Whether or not this tendency will be counteracted by immigration or natural increase depends upon other conditions. If the tariff stimulates immigration or increases the birth rate over what it

would be without a tariff, the presumption is that it does so because it increases the demand for labor and raises wages, which is all that this paper contends for. Wages may or may not be subsequently reduced to the old level by other forces counteracting the tendency of the tariff. As the second condition, it is hoped that the third part of this paper will show that a protective tariff does not necessarily diminish the total product of industry.

Owing to the limited space available it is necessary to assume two premises as the basis of the argument for the proposition that a protective tariff may be so framed as to raise wages within the country. (1) The three factors of production, land, labor and capital, are combined in different proportions in the production of different commodities. (2) A selected industry may be stimulated and made to grow by means of a protective tariff. Both these propositions could be proved did space allow, but neither is likely to be disputed by any considerable number. Assuming them to be true, it is only necessary to stimulate, by means of a protective tariff, the production of those articles into which labor enters as the principal factor, leaving unprotected those industries into which labor enters as a relatively less important factor. This is a process of artificial selection in which the variation which makes selection possible is found in the different proportions in which the three factors are combined in the different industries. The favorable variations, from the standpoint of the laboring class, are those industries in which labor is the relatively more important factor, and the unfavorable variations are those in which labor is the relatively less important factor. In order to favor the laboring class it is only

necessary to select the favorable variations, that is, to build up by artificial means those industries in which labor is the principal factor. Even though this should result in a corresponding injury to other industries, there would still remain a net gain to labor.

Let us suppose, by way of illustration, that in industry A, at a given period, the best results, from the standpoint of the entrepreneur, are ordinarily obtained by combining 1000 acres of land, 10 laborers and $100,000 worth of capital. These yield a product worth $20,000. In industry B, to get a product of the same value the best results would be obtained from combining the factors in the following proportions: 10 acres of land, 20 laborers and $100,000 worth of capital. Wages and interest are assumed to be the same in both industries. For the sake of simplicity, capital is assumed to bear the same ratio to product in both industries, land and labor being the varying factors. By building up industry B, even at the expense of industry A, there will result a net increase in employment of labor, though a corresponding decrease in the employment of land. This increase in the employment of labor means an increase in the demand for labor, while the decrease in the employment of land means a decrease in the demand for land. The result of this situation would be that a larger share of the total product would go in the payment of wages and a smaller share in the payment of rent.[1]

We need here to guard against the possibility that industry B while using fewer acres of land, might require a kind of land that is so very scarce that the rent charge would be higher than in A. But this is not a necessary

[1] This may possibly be made more concrete by means of the following table. I. represents the conditions as described above. II. represents

condition. It is quite conceivable that the two industries would use the same grade of land. It is even conceivable that industry B, in addition to using fewer acres, would also use a more abundant kind of land where rents were less per acre. The whole difficulty could be avoided by starting with the proposition that in different industries rent charges, wages, and interest, enter in varying proportions. Then by selecting for governmental favor those industries in which wages, rather than rent or interest, form the chief item of expense, the total industry of the country would be affected favorably from the standpoint of the wage receivers.

It goes without saying that an entirely different result would be obtained by selecting for governmental favor those industries in which rent or interest formed the chief item of expense:—a result advantageous to the landlord or the capitalist, but disadvantageous to the laborer. It must be confessed, also, that as protectionism has been applied in the past, especially in England before the repeal of the corn laws, this result was quite as frequently obtained as the other. There is some danger also that it will be so in the future, owing

the situation after industry B has been expanded 50% and industry A has been correspondingly contracted.

I.

Industry A	1000 acres :	10 laborers :	$100,000 capital :	$20,000 product
" B	10 "	20 "	100,000 "	20,000 "
Totals	1010	30	$200,000	$40,000

II.

Industry A	500 acres :	5 laborers :	$ 50,000 capital :	$10,000 product
" B	15 "	30 "	150,000 "	30,000 "
Totals	515	35	$200,000	$40,000

This shows a decrease of 495 in the number of acres used and an increase of 5 in the number of men employed.

to the better lobbying facilities of the land-owning and capitalistic classes. But that is another matter.

The proposition that protection attracts labor and capital from the more productive to the less productive industries has long been one of the basic principles of the free trade school—the rock on which all protectionist theories were supposed to split. And it must be confessed that unless this position can be successfully assailed the free-trader will always have the advantage in the argument.

The difficulty with the proposition lies in the double meaning which is given to the word "productive". In order to make a true proposition of it that word must be given a certain meaning; but in order to make it a conclusive argument it must have quite a different meaning. From the standpoint of the individual business man a "productive" industry is a "profitable"[1] industry, that is, an industry which offers the opportunity of making a surplus gain over the cost of running the business. From the standpoint of the community a productive industry is one which increases the sum total of utilities. It is the "profitableness" of the industry, rather than its "productiveness" in the latter sense, which causes labor and capital to go into it. It is only by defining "productive" as "profitable" that one can

[1] For want of a better term the words profit and profitable are used here in the more popular sense, which agrees with the use of the terms by the older writers on economics. Profit is made to include the surplus income of an industry over and above the cost of conducting it. In this broad sense it includes rent and every other form of surplus. A profitable industry would therefore be one which would yield a surplus income of some kind. This surplus is what attracts the director of industry and it is the surplus-producing power of an industry which determines whether or not labor and capital shall go into it.

support the proposition that labor and capital will seek those industries which are naturally most productive. In that sense, and in that sense alone, it is quite true that protection attracts labor and capital from the more productive to the less productive industries.

But in order to have any weight as an argument this proposition must mean that protection attracts labor and capital from those industries which create more utilities into those which create fewer utilities. That is to say, the word "productive" must mean something more than "profitable." The difficulty could be met only by showing that a "profitable" industry from the standpoint of the individual business man is always a "productive" industry from the standpoint of the community. If this cannot be shown it would mean that labor and capital, if left to themselves, will, in seeking the largest profits, sometimes go into the less "productive" industries. There would then be a possibility that protection or some other form of government interference might be able to attract labor and capital from the less productive industry whither it would naturally go in pursuit of profits, into a more productive industry whence it would naturally have been excluded by the smallness of the profits. This possibility would become a reality if the relative profitableness of the two industries could be reversed by some kind of government discrimination.

The question then becomes: Are the more "profitable" industries always the more "productive?" Manifestly not. Saying nothing of certain lines of business which are acquisitive in their nature and not productive at all, there are certain highly productive industries which have very little power of attracting individual enterprise.

To begin with an extreme case, there is the work of maintaining light-houses. This illustration is chosen, not because it is supposed to be typical of those industries which are fitted to receive protection, but solely because it serves to make clear that there may be a productive industry which offers no inducements for private enterprise. On the one hand this work has all the ear-marks of a productive industry. It produces a real utility: this utility is of a materialistic sort and not moral or social, as is that produced by educational and other similar institutions; and it is produced by purely mechanical processes. There is nothing in the nature of the utility produced, or its processes of production, to distinguish this from any money making business. On the other hand, this industry offers no incentive to private enterprise, that is, no opportunity for private profits, for the one sufficient reason that the producer cannot control his product. It will shine upon those who do not pay for it as well as upon those who do. He is therefore not in a position to exact a payment for his product corresponding to its utility.

It will doubtless be objected that this is a case calling for government ownership and operation rather than mere protection, and the point would be well taken. This is a business so completely devoid of opportunity for profitable enterprise that no kind of a protective tariff would be able to make it profitable. Nothing but a subsidy could induce private capital to go into it, and the subsidy would have to cover the whole cost. In that case the government might just as well, it may be maintained, own and carry on the business. But the difference between this industry and one which would lend itself to protective measures is one of degree only.

Industries differ widely in this particular, that,

whereas one, such as the maintenance of lighthouses, produces a utility that cannot be controlled at all in the interest of the owner; another produces a utility of such a nature that the owner can exact full payment from those who use it; while still another produces no utility at all but is purely acquisitive in its nature. An example of the last, not to come too near home, would be the mediæval baron who took possession of a natural ford, or a mountain pass, and set up his castle and went into the business of collecting toll of all who passed that way.[1] These three industries do not belong to sharply differentiated classes but they shade off gradually into one another. That is to say, there is a gradual shading off from the business which creates utilities far in excess of any amount which the owner of the business can collect, to the business which can collect a revenue far in excess of any utility actually created by it. Here again we have a form of variation which makes artificial selection possible, the favorable variations being those industries which come under the former description.

In considering this aspect of economic life too much has been usually assumed as to the harmony of interests among the different members of the community. Nothing is more fundamental in economic science than the

[1] This is a business to which the principle of 'charging what the traffic will bear' applies beautifully. What the traffic will bear is, in this case, determined by the superiority of the ford or pass over the poorest ford or pass over which traffic could afford to go. Let us suppose that instead of merely collecting toll the baron spends some trifling sum in the improvement of the passage, still charging what the traffic will bear. His business then becomes slightly productive but its productiveness is still small as compared with its profitableness. Then let us assume him gradually to increase his expenditures for improvement of the passage until the utility created approximates more and more nearly to the charges collected; at each stage of the process his business will represent some type of business actually carried on among us today.

proposition that there is an antagonism of interests among the different members of the community. If there were a complete harmony of interests, labor and capital might be expected to seek those industries which are most productive from the social standpoint. But, aside from the observable fact that labor and capital do nothing of the kind, it is a matter of common observation and experience, confirmed by reflective analysis, that there is no such harmony of human interests. One man's interest is served by having the labor and capital of the community directed in one line, another's by having them directed in quite a different line. More than that, there is great inequality among individuals in the power of giving direction to the industry of the community. The one who owns land or capital in addition to his own labor power is in better position, other things equal, to determine the direction of business activity than is the one who owns only his labor power. We therefore not only have the certainty that each individual will try to direct business activity in the line most conducive to his own interests and that in many cases his interests will not harmonize with the interests of the community, but also the certainty that the power to give this direction differs greatly among different individuals. Did we not know it as a matter of direct observation and experience, we might predict from these premises that the business activity of the community would not, in all cases, be directed in the most productive lines, and that therefore it would be possible, by some form of discrimination, to attract labor and capital from the less productive to the more productive industries.

The following illustration may add something to the concreteness of this conclusion. Let us suppose that

a certain tract of land had been devoted to cultivation of a fairly intensive kind and had been producing enough to pay the wages of 20 laborers, with something left over for rent. Through some change of circumstances the price of wool rises and it is found more profitable to use the land for wool growing. By turning the land into a sheep-run, 19 of the laborers may be dispensed with, and the saving in wages would more than measure the difference between the value of the wool crop and that of the present crop, so that a larger surplus would be left over as rent. There is little doubt that the land would then be devoted to the growing of wool. That would be to the interest of the landlord and against the interests of the 19 laborers, but the landlord is in a better position than they for determining the form of cultivation. There is also little doubt that this would be contrary to the interest of the community. Less wealth would be produced either for consumption or for international trade. Fewer people could be supported, or the same number would be more poorly supported, than formerly. If the 19 men thrown out of employment cannot find a place elsewhere, they will probably, since they want to live, offer their labor at lower wages—enough lower to enable the landlord to get as much rent from the more intensive form of cultivation as he might get by the less intensive form. Here we have the somewhat anomalous situation of an increase in the price of one of the products of industry causing a fall in the price of labor. The key to this anomaly is found in the fact that what is cost to one man is frequently gain to another. Now in this supposed case, which is not altogether a supposed case, there is little doubt that some form of discrimination in favor of the present crop and against wool, would

not only increase the relative share of the produce going to labor, but the absolute amount of the produce of the land.

And this is a rule which works both ways. In a community where land is extensively cultivated it is presumably because extensive cultivation produces the best results from the standpoint of the land owner. Any one of several conditions may induce him to change to intensive cultivation. (1) A fall in the price of labor; (2) a fall in the price of the products of extensive cultivation; (3) a rise in the price of products of intensive cultivation. There lies the opportunity for the protectionist. By some discrimination which will tend to increase the profitableness of the intensive product, or decrease, relatively at least, the profitableness of the extensive product, an absolutely larger and more valuable product might be created. This would support a larger number of people, or support them better. They would have a larger number of products either for consumption or for international trade. Labor and capital would have been attracted from the less productive to the more productive industry. Since a protective tariff is one means by which the relative profitableness of different industries may be changed, it follows that a protective tariff may be a means of increasing the total product of the industry of the community.